

Ordinance Adopting Seattle Amendments to the 2003 International Fuel Gas Code

effective August 15, 2004

NOTE: This document is **not** designed for insertion into the IFGC. The Department of Planning and Development hopes to make the amendments available by the end of August from the Public Resources Center, 20th floor of Seattle Municipal Tower, 700 Fifth Ave., (206) 684-8467.



City of Seattle

Department of Planning and Development

www.seattle.gov/dpd/techcodes

ORDINANCE _____

AN ORDINANCE relating to Building Construction Codes; adding a new Chapter 22.420, the Seattle Fuel Gas Code, to the Seattle Municipal Code; adopting Chapters 2 through 8 and amending Chapters 2, Definitions; Chapter 3, General Regulations; Chapter 4, Gas Piping Installations; Chapter 6, Specific Appliances; and Chapter 7, Gaseous Hydrogen Systems of the 2003 International Fuel Gas Code; and adding a new Chapter 1 related to administration, permitting and enforcement.

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. A new Section 22.420.010 is added to the Seattle Municipal Code to read as follows:

22.420.010 Adoption of International Fuel Gas Code. The Seattle Fuel Gas Code shall consist of the following portions of the 2003 edition of the International Fuel Gas Code as published by the International Code Council: Chapters 2-8, together with Seattle amendments to those chapters, and a new Chapter 1. One copy of the 2003 International Fuel Gas Code is filed with the City Clerk in C.F.

Section 2. Chapter 1 of the Seattle Fuel Gas Code is adopted to read as follows:

CHAPTER 1 ADMINISTRATION SECTION 101 TITLE

These regulations shall be known as the "Seattle Fuel Gas Code," may be cited as such, and will be referred to herein as "this code." All references to the *International Fuel Gas Code* contained in this code shall mean the *Seattle Fuel Gas Code*.

SECTION 102

PURPOSE

The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, and maintenance or use of heating, ventilating, cooling, refrigeration systems, incinerators and other miscellaneous heat-producing appliances within the City.

The purpose of this code is to provide for and promote the health, safety and welfare of the general public, and not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

SECTION 103

SCOPE

103.1 Applicability. The provisions of this code shall apply to the erection, installation, alteration, repair, relocation, replacement, addition to, use or maintenance of any fuel-gas piping systems, fuel-gas utilization equipment and related accessories within the City. The design and testing of equipment regulated by this code shall be subject to the approval of the code official.

Exceptions:

1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with separate means of egress and their accessory structures shall comply with the *International Residential Code*.
2. The standards for liquefied petroleum gas installations shall be the 2001 edition of NFPA 58 (Liquefied Petroleum Gas Code) as amended and the 2002 edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

103.2 Alterations. Additions, alterations, repairs and replacement of equipment or systems shall comply with the provisions for new equipment and systems except as otherwise provided in Section 104 of this code.

103.3 Most Restrictive. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

W] 103.4 Conflict with Ventilation Code. In the case of conflict between the ventilation requirements of this code and the ventilation requirements of Washington Administrative Code

Chapter 51-13 the Washington State Ventilation and Indoor Air Quality Code (VIAQ), the provisions of the VIAQ shall govern.

103.5 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions shall apply.

103.6 Appendices. Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance.

103.7 Metric units. Wherever in this ordinance there is a conflict between metric units of measurement and English units, the English units shall govern.

SECTION 104

APPLICATION TO EXISTING MECHANICAL SYSTEMS

104.1 Additions, Alterations or Repairs. Additions, alterations, renovations or repairs may be made to any mechanical system without requiring the existing mechanical system to comply with all the requirements of this code, provided the addition, alteration, renovation or repair conforms to that required for a new mechanical system. Additions, alterations, renovations or repairs shall not cause an existing system to become unsafe, unhealthy or overloaded.

Minor additions, alterations, renovations, and repairs to existing mechanical systems may be installed in accordance with the law in effect at the time the original installation was made, when approved by the code official.

104.2 Existing Installations. Mechanical systems lawfully in existence at the time of the adoption of this code may have their use, maintenance or repair, conversion of fuel, or component replacement continued if the use, maintenance, repair, conversion of fuel, or

component replacement is in accordance with the basic original design and location, and no hazard to life, health or property has been created by such mechanical system.

104.3 Changes in Building Occupancy. Mechanical systems which are a part of any building or structure undergoing a change in use or occupancy, as defined in the Building Code, shall comply with all requirements of this code which may be applicable to the new use or occupancy.

104.4 Maintenance. All mechanical systems, materials and appurtenances, both existing and new, and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard-free condition. All devices or safeguards which are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for maintenance of mechanical systems and equipment. To determine compliance with this subsection, the code official may cause a mechanical system or equipment to be reinspected.

The Fire Chief and the code official shall each have authority to obtain compliance with the requirements of this subsection.

EXCEPTION: The code official may modify the requirements of this section where all or a portion of the building is unoccupied.

104.5 Moved Buildings. Building or structures moved into or within the City shall comply with standards adopted by the code official. No building shall be moved into or within the City unless, prior to moving, the code official has inspected the building for compliance with this code and the permit holder has agreed to correct all deficiencies found and has been issued a building permit for the work. A bond or cash deposit in an amount sufficient to abate or demolish the building shall be posted prior to issuance of a permit. See Section 116 for information required on plans. Any moved building that is not in complete compliance with standards for moved buildings within eighteen months from the date of permit issuance and is found to be a public nuisance may be abated.

104.6 Historic Buildings and Structures. The code official may modify the specific requirements of this code as it applies to buildings and structures designated as landmarks of historical or cultural importance and require in lieu thereof alternate requirements which, in the opinion of the code official, will result in a reasonable degree of safety to the public and the occupants of those buildings.

A historic building or structure is one which has been designated for preservation by the City Landmarks Preservation Board or the State of Washington, has been listed, or has been determined eligible to be listed, in the National Register of Historic Places, has been officially nominated for such status, or is a structure contributing to the character of a designated landmark or special review district.

SECTION 105

ALTERNATE MATERIALS AND METHODS OF CONSTRUCTION

This code does not prevent the use of any material, design or method of construction not specifically allowed or prohibited by this code, provided the alternate has been approved and its use authorized by the code official.

The code official may approve an alternate, provided he/she finds that the proposed alternate complies with the provisions of this code and that the alternate, when considered together with other safety features of the building or other relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety and sanitation.

The code official may require that sufficient evidence or proof be submitted to reasonably substantiate any claims regarding the use or suitability of the alternate. The code official may, but is not required to, record the approval of modifications and any relevant information in the files of the code official or on the approved permit plans.

SECTION 106

MODIFICATIONS

The code official may approve modifications for individual cases, provided the code official finds: (1) there are practical difficulties involved in carrying out the provisions of this code; (2) the modification is in conformity with the intent and purpose of this code; and (3) the modification will provide a reasonable level of fire protection and structural integrity when considered together with other safety features of the building or other relevant circumstances. The code official may, but is not required to, record the approval of modifications and any relevant information in the files of the code official or on the approved permit plans.

SECTION 107

TESTS

Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that any material or method of construction does not conform to the requirements of this code, the code official may require tests as proof of compliance to be made at no expense to the City.

Test methods shall be as specified in this code or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the code official shall determine the test procedures.

All tests shall be made by an approved agency. Reports of such tests shall be retained by the code official.

SECTION 108

JURISDICTION AND POWERS AND DUTIES OF THE CODE OFFICIAL

108.1 Jurisdiction. The Department of Planning and Development is the code enforcement agency in the City of Seattle for this code. The Director of the Department of Planning and Development is the code official.

108.2. General. The code official is authorized and directed to enforce this code, except that enforcement of Chapters 4 are the primary responsibility of the Director of Public Health, and enforcement authority as provided in this code to the code official is also vested in the Director

of Public Health and the Fire Chief. Compliance with the requirements of this code is the obligation of the owner of the building, structure or premises, the duly authorized agent of the owner, or other person responsible for the condition or work, and not of the City or any of its officers or employees.

108.3 Deputies. The code official may appoint such officers and inspectors and other employees as shall be authorized from time to time. The code official may deputize such inspectors or employees as may be necessary to carry out the functions of the code official.

108.4 Right of Entry. With the consent of the owner or occupier of a building or premises, or pursuant to a lawfully issued warrant, the code official may enter a building or premises at any reasonable time to perform the duties imposed by this code.

108.5 Stop Orders. Whenever any work is being done contrary to the provisions of this code, or in the event of dangerous or unsafe conditions related to construction or demolition, the code official may order the affected work stopped by a notice describing the violation in writing, posted on the premises or served on any person responsible for the condition or work. It is unlawful for any person to engage in or to cause such work to be done until authorization from the code official is received.

108.6 Authority to Disconnect Utilities in Emergencies. The code official has the authority to disconnect fuel–gas utility service or energy supplies to a building, structure, premises or equipment regulated by this code in case of emergency where necessary to eliminate an immediate hazard to life or property. The code official may enter any building or premises to disconnect utility service. The code official shall, whenever possible, notify the serving utility, the owner and occupant of the building, structure or premises of the decision to disconnect prior to taking such action, and shall notify such serving utility, owner and occupant of the building, structure or premises in writing of such disconnection immediately thereafter.

108.7 Authority to Condemn Equipment. Whenever the code official ascertains that any equipment, or portion thereof, regulated by this code has become hazardous to life, health or

property, the code official shall order in writing that such equipment may either be disconnected, removed or restored to a safe or sanitary condition, as appropriate. The written notice itself shall fix a time limit for compliance with such order. It is unlawful for any person to use or maintain defective equipment after receiving such notice.

When such equipment or installation is to be disconnected, the code official shall give written notice of such disconnection and causes therefor shall be given within 24 hours to the serving utility, the owner and occupant of the building, structure or premises. When any equipment is maintained in violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.

108.8 Connection after Order to Disconnect. No person shall make connections from any energy, fuel or power supply nor supply energy or fuel to any equipment regulated by this code which has been disconnected or ordered to be disconnected by the code official, or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such equipment.

108.9 Liability. Nothing contained in this code is intended to be nor shall be construed to create or form the basis for any liability on the part of the City, or its officers, employees or agents, for any injury or damage resulting from the failure of equipment to conform to the provisions of this code, or by reason or in consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this code, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this code by its officers, employees or agents.

This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or property caused by defects, nor shall the Department of Planning and Development or the City

of Seattle be held as assuming any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

108.10 Cooperation of Other Officials and Officers. The code official may request, and shall receive so far as is required in the discharge of the code official's duties, the assistance and cooperation of other officials of the City of Seattle.

SECTION 109

UNSAFE EQUIPMENT AND HAZARD CORRECTION ORDER

109.1 Unsafe Equipment. Any equipment regulated by this code which constitutes a fire or health hazard or is otherwise dangerous to human life is, for the purpose of this section, unsafe. Any use of equipment regulated by this code constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is, for the purpose of this section, an unsafe use. Any such unsafe equipment is hereby declared to be a public nuisance and may be abated.

109.2 Hazard Correction Order. Whenever the code official finds that unsafe equipment exists, the code official may issue a hazard correction order specifying the conditions causing the equipment to be unsafe and directing the owner or other person responsible for the unsafe equipment to correct the condition. In lieu of correction, the owner may submit a report or analysis to the code official analyzing said conditions and establishing that the equipment is, in fact, safe. The code official may require that the report or analysis be prepared by a licensed engineer. It is unlawful for any person to fail to comply with a hazard correction order as specified in this subsection.

SECTION 110

APPEALS

Appeals from decisions or actions pertaining to the administration and enforcement of this code shall be addressed to the code official. The appellant may request a review by three or more members of the Construction Codes Advisory Board, convened by the Chair. The issue of the

appeal shall be taken into account by the Chair when selecting members to hear an appeal. The results of this appeal shall be advisory only.

SECTION 111

VIOLATIONS AND PENALTIES

111.1 Violations. It is a violation of this code for any person, firm or corporation to install, erect, construct, enlarge, alter, repair, replace, remodel, move, improve, remove, convert or demolish, equip, occupy, use or maintain any mechanical systems or equipment or cause or permit the same to be done in the City, contrary to or in violation of any of the provisions of this code.

It is a violation of this code for any person, firm or corporation to use any material or to install any device, appliance or equipment which does not comply with the applicable standards of this code or which has not been approved by the code official.

111.2 Notice of Violation. If, after investigation, the code official determines that standards or requirements of this code have been violated, the code official may serve a notice of violation upon the owner or other person responsible for the action or condition. The notice of violation shall state the standards or requirements violated, shall state what corrective action, if any, is necessary to comply with the standards or requirements, and shall set a reasonable time for compliance. The notice shall be served upon the owner or other responsible person by personal service, registered mail or certified mail with return receipt requested, addressed to the last known address of such person. In addition, a copy of the notice may be posted at a conspicuous place on the property. The notice of violation shall be considered an order of the code official. Nothing in this subsection shall be deemed to limit or preclude any action or proceeding pursuant to Sections 108 or 109 of this code, and nothing in this section shall be deemed to obligate or require the code official to issue a notice of violation prior to the imposition of civil or criminal penalties in this section.

111.3 Civil Penalties. Any person, firm or corporation failing to comply with the provisions of this code shall be subject to a cumulative civil penalty in an amount not to exceed \$500 per day for each violation from the date the violation occurs or begins until compliance is achieved. In cases where the code official has issued a notice of violation, the violation will be deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation.

111.4 Criminal Penalty. Anyone who violates or fails to comply with any order issued by the code official pursuant to this code or who removes, mutilates, destroys or conceals a notice issued or posted by the code official shall, upon conviction thereof, be punished by a fine of not more than \$1,000 or by imprisonment for not more than 360 days, or by both such fines and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

Anyone violating or failing to comply with any of the provisions of this code and who within the past five years has a judgment against them pursuant to Section 111.3, shall upon conviction thereof, be punished by a fine in a sum not to exceed \$500 or imprisonment for not more than 180 days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

111.5 Additional Relief. The code official may seek legal or equitable relief to enjoin any acts or practices and abate any condition which constitutes a violation of this code when civil or criminal penalties are inadequate to effect compliance.

SECTION 112

NOTICES

It is unlawful for any person to remove, mutilate, destroy or conceal any notice issued or posted by the code official pursuant to the provisions of this code or any notice issued or posted by the code official in response to a natural disaster or other emergency.

The code official may record a copy of any order or notice with the Department of Records and Elections of King County.

1 The code official may record with the Department of Records and Elections of King County
2 a notification that a permit has expired without a final inspection after reasonable efforts have
3 been made to provide a final inspection.

4 **SECTION 113**

5 **RULES OF THE CODE OFFICIAL**

6 **113.1 Authority.** The code official has the power to render interpretations of this code and to
7 adopt and enforce rules and regulations supplemental to this code as may be deemed necessary
8 in order to clarify the application of the provisions of this code. Such interpretations, rules and
9 regulations shall be in conformity with the intent and purpose of this code. The code official is
10 authorized to promulgate, adopt and issue the following rules:

11 “Building Construction Standards” to promulgate standards which are acceptable as a
12 method or as an alternative design for meeting code required performance criteria, to recognize
13 new technical data affecting code requirements, and to eliminate conflicts among code
14 requirements.

15 “Code Interpretations” to interpret and clarify conditions or language expressed in this code.

16 Any other rule necessary for the administration of the purpose and intent of this code.

17 **113.2 Procedure for Adoption of Rules.** The code official shall promulgate, adopt and issue
18 rules according to the procedures as specified in Chapter 3.02 of the Administrative Code,
19 Seattle Municipal Code.

20 **SECTION 114**

21 **CONSTRUCTION CODES ADVISORY BOARD**

22 A committee of the Construction Codes Advisory Board may examine proposed administrative
23 rules, appeals and amendments relating to this code and related provisions of other codes and
24 make recommendations to the code official and to the City Council for changes in this code.
25 The committee will be called on as needed by the Construction Codes Advisory Board.

SECTION 115

PERMITS

115.1 Permits Required. It is unlawful to make any installation, alteration, repair, replacement or remodel of any mechanical system regulated by this code except as permitted in Section 115.2 of this code, or to allow the same to be done without first obtaining a separate mechanical permit for each separate building or structure. All work shall comply with this code, even where no permit is required.

115.2 Work Exempt from Permit. A mechanical permit is not required for the following:

1. Any portable heating appliance, portable ventilating equipment, or portable cooling unit, provided that the total capacity of these portable appliances shall not exceed 40 percent of the cumulative heating, cooling or ventilating requirements of a building or dwelling unit and shall not exceed 3 kW or 10,000 Btu input.
2. Any closed system of steam, hot or chilled water piping within heating or cooling equipment regulated by this code.
3. Minor work or the replacement of any component part of a mechanical system which does not alter its original approval and complies with other applicable requirements of this code.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the City.

115.3 Flood Hazard Areas. In addition to the permit required by this section, all work to be performed in areas of special flood hazard, as identified in the report entitled "Flood Insurance Study for King County, Washington and Incorporated Areas" and the accompanying Flood Insurance Rate Maps and filed in C.F. 295948, is subject to additional standards and requirements, including floodplain development approval or a Floodplain Development License, as set forth in Chapter 25.06, the Seattle Floodplain Development Ordinance.

115.4 Emergency Repairs. In the case of an emergency, the installation, alteration or repair of any refrigeration system or equipment may be made without a permit, provided that application for a permit shall be made within twenty-four hours or within one working day from the time when the emergency work was started.

SECTION 116

APPLICATION FOR PERMIT AND INFORMATION ON PLANS AND SPECIFICATIONS

116.1 Application. To obtain a permit, the applicant shall first file an application in writing on a form furnished by the Department of Planning and Development for that purpose. Every such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, property address or similar description that will readily identify and definitely locate the proposed building or work.
3. Provide contractor's state license number (required if permit is to be issued to the contractor). To obtain a permit for work on a refrigeration system, the applicant shall also provide the number of the refrigeration contractor license issued by the City.
4. Be accompanied by plans, diagrams, computations and specifications, equipment schedule and other data as required in Sections 116.2 and 116.3.
5. State the valuation of the mechanical work to be done. The value or valuation of the mechanical work shall be the estimated current value of all labor and material, whether actually paid for or not, for which the permit is issued.
6. Be signed by the owner of the property or building, or his/her authorized agent, who may be required to submit evidence to indicate such authority.
7. Give such other data and information as may be required by the code official.

8. Indicate the name of the owner and contractor and the name, address and phone number of a contact person.

116.2 Plans and Specifications. Plans, engineering calculations, diagrams and other data shall be submitted in one or more sets with each application for a permit. The code official may require plans, computations and specifications to be prepared and designed by an engineer or architect licensed by the state to practice as such. Projects having a total mechanical valuation of \$30,000 or larger shall require a mechanical engineering stamp and signature on each sheet.

EXCEPTION: The code official may waive the requirements for a mechanical engineer's stamp or submission of plans, calculations or other data if the code official finds that the nature of the work applied for is such that the reviewing of plans is not necessary to obtain compliance with this code.

116.3 Information on Plans and Specifications.

116.3.1 Clarity of plans. Plans shall be drawn to a clearly indicated and commonly accepted scale upon substantial paper such as blueprint quality or standard drafting paper. Tissue paper, posterboard or cardboard will not be accepted. The plans shall be of microfilm quality and limited to a minimum size of 18 inches by 18 inches and a maximum size of 41 inches by 54 inches.

116.3.2 Fire-resistive notes. The code official may require that plans for buildings more than two stories in height of other than Group R, Division 3 and Group U Occupancies indicate how required structural and fire-resistive integrity will be maintained where a penetration will be made for electrical, mechanical, plumbing and communication conduits, pipes and similar systems.

116.3.3 Information required on plans. The plans or specifications shall show the following:

1. Layout for each floor with dimensions of all working spaces and a legend of all symbols used.
2. Location, size and material of all piping.

3. Location, size and materials of all air ducts, air inlets and air outlets.
4. Location of all fans, warm-air furnaces, boilers, absorption units, refrigerant compressors and condensers and the weight of all pieces of such equipment weighing 200 pounds or more.
5. Rated capacity or horsepower and efficiency rating of all boilers, warm-air furnaces, heat exchangers, blower fans, refrigerant compressors and absorption units. See also the Seattle Energy Code.
6. Location, size and material of all combustion products vents and chimneys.
7. Location and area of all ventilation and combustion air openings and ducts.
8. Location of all air dampers and fire shutters.
9. The first sheet of each set of plans and specifications shall show the address of the proposed work and the name and address of the owner or lessee of the premises.

Plans and specifications shall be of sufficient clarity to show that the proposed installation will conform to the provisions of this code and to the provisions of all applicable laws, ordinances, rules, regulations and orders.

Architectural drawings, typical envelope cross sections and other drawings or data may be required to support system sizing calculations or other thermal requirements of this code or the Seattle Energy Code.

SECTION 117

PERMIT ISSUANCE

117.1 Issuance.

117.1.1 General. The application, plans, specifications, and other data filed by an applicant for permit shall be reviewed by the code official. Such plans may be reviewed by other departments of the City to check compliance with the laws and ordinances under their jurisdiction. If the code official finds that the work as described in an application for a permit and the plans, specifications and other data filed therewith substantially conforms to

1 the requirements of this code and other pertinent laws and ordinances and that the fees
2 specified in the Fee Subtitle have been paid, the code official shall issue a permit to the
3 applicant who becomes the permit holder or authorized agent.

4 **EXCEPTION:** The code official may issue a permit for the construction of part of a
5 building or structure before complete plans for the whole building or structure have been
6 submitted or approved, provided that the proposed project complies with the State
7 Environmental Policy Act as adopted by the City (Chapter 25.05 Seattle Municipal
8 Code) and as amended and the Land Use Code as amended; and provided further that
9 adequate information and plans have been filed and checked to assure compliance with
10 all pertinent requirements of this and other pertinent codes. The holder of such a permit
11 shall proceed at his/her own risk without assurance that the permit for the entire building
12 or structure will be granted.

13 **117.1.2 Compliance with approved plans and permit.** When the code official issues a
14 permit, the code official shall endorse the permit in writing and endorse in writing or stamp
15 the plans "APPROVED." Such approved plans and permit shall not be changed, modified
16 or altered without authorization from the code official, and all work shall be done in
17 accordance with the approved plans and permit except as the code official may require
18 during field inspection to correct errors or omissions.

19 **117.1.3 Amendments to the permit.** When substitutions or changes are made during
20 construction, approval shall be secured prior to execution, however, the building inspector
21 may approve minor modifications for work not reducing the structural strength and fire and
22 life safety of the structure. The building inspector shall determine if it is necessary to revise
23 the approved plans. These substitutions and changes shall conform to the requirements of
24 this code and other pertinent laws and ordinances. Minor substitutions or changes shall be
25 documented, but shall not incur additional fees if these substitutions and/or changes do not
26 (1) add to the general scope of work; (2) change the basic design concept; (3) involve major
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1 relocation of equipment, ducts, or pipes; (4) substantially alter approved equipment size; (5)
2 require extensive re-review of the plans and specifications.

3 All other changes, substitutions, or clarifications shall be shown on two sets of plans
4 which shall be submitted to and approved by the code official prior to execution or occupancy.
5 These submittals shall be accompanied by appropriate fees as specified in the Fee Subtitle prior
6 to issuance of the Certificate of Occupancy.

7 **117.1.4 Cancellation of permit application.** Applications may be cancelled if no permit is
8 issued by the earlier of the following: (1) within twelve months following the date of
9 application; or (2) within sixty days from the date of written notice of approval for issuance.
10 Plans and other data submitted for review may thereafter be returned to the applicant or
11 destroyed by the building official.

12 The building official shall notify the applicant in writing at least thirty days before the
13 application is cancelled. The notice shall specify a date by which a request for extension must
14 be submitted. The date shall be at least two weeks prior to the date on which the application
15 will be cancelled.

16 At the discretion of the building official, applications for projects that require more than
17 twelve months to complete may be extended for a period that provides reasonable time to
18 complete the work, but in no case longer than twenty-four months from the date of application.
19 No application shall be extended more than once. In order to renew action on an application
20 after cancellation, the applicant shall submit a new application and pay a new fee.

21 Notwithstanding other provisions of this code, applications may be extended where issuance
22 of the permit is delayed by litigation, preparation of environmental impact statements, appeals,
23 strikes or other causes related to the application that are beyond the applicant's control, or while
24 the applicant is making progress toward issuance of a master use permit.

25 See the Fee Subtitle for fee refunds.
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117.2 Retention of Plans. One set of approved plans, which may be on microfilm, shall be retained by the code official. One set of approved plans shall be returned to the applicant, and shall be kept at the site of the building or work at all times during which the work authorized is in progress for use by the inspection personnel.

117.3 Validity of permit. The issuance or granting of a permit or approval of plans shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or other pertinent laws and ordinances. No permit presuming to give authority to violate or cancel the provisions of this code shall be valid, except insofar as the work or use which it authorizes is lawful.

The issuance of a permit based upon plans shall not prevent the code official from thereafter requiring the correction of errors in said plans, or from preventing building operations being carried on thereunder when in violation of this code or of other pertinent laws and ordinances of the City.

The issuance of a mechanical permit shall not prevent the code official from requiring correction of conditions found to be in violation of this code or other pertinent laws of the City, nor shall the period of time for which any such permit is issued be construed to extend or otherwise affect any period of time for compliance specified in any notice or order issued by the code official or other administrative authority requiring the correction of any such conditions.

117.4 Permit Expiration and Renewal.

117.4.1 Expiration. Permits and renewed permits shall expire eighteen months from the date of issuance.

EXCEPTIONS:

1. Initial permits for major construction projects that require more than eighteen months to complete, according to a construction schedule submitted by the applicant, may be issued for a period that provides reasonable time to complete the work but in no case longer than three years.

2. Permits which expire in less than eighteen months may be issued where the code official determines a shorter period is appropriate.

117.4.2 Renewal. Permits may be renewed and renewed permits may be further renewed by the code official, provided the following conditions are met:

1. Application for renewal shall be made within the thirty-day period immediately preceding the date of expiration of the permit;
2. The work authorized by the permit has been started and is progressing at a rate approved by the code official. Progress justifying renewal of a permit, except as specified by Item 3, shall include, but is not limited to, requesting of a required inspection, the arranging of financing, selection of contractors and subcontractors, securing other necessary permits and licenses, site preparation such as demolition, clearing and excavation, soils investigation and work done to overcome unusual construction difficulties;
3. If an application for renewal is made either more than eighteen months after the date of mandatory compliance with a new or revised edition of this code or after the effective date of an amendment to applicable provisions of the Land Use Code, the permit shall not be renewed unless:
 - (i) The code official determines that the permit complies, or is modified to comply with the code or codes in effect on the date of application renewal; or
 - (ii) The work authorized by the permit is substantially underway and progressing at a rate approved by the code official. Progress justifying renewal of the permit shall be evidenced by notification by the permit holder that a construction step is ready for an inspection required by Section 119.4 of this code.

Permits may also be renewed where commencement or completion of the work authorized by the permit is delayed by litigation, appeals, strikes or other causes related to the work authorized by the permit, beyond the permit holder's control.

1 **117.4.3 Re-establishment.** A new permit shall be required to complete work where a permit
2 has expired and was not renewed.

3 **EXCEPTION:** A permit which has been expired for less than one year may be
4 reestablished upon approval of the code official provided it complies with Items 2 and 3
5 of Section 117.4.2.

6 **117.5 Suspension or Revocation.** The code official may, by written order, suspend or revoke a
7 permit issued under the provisions of this code whenever the permit is issued in error or on the
8 basis of incorrect information supplied, or in violation of any ordinance or regulation or any
9 provisions of this code.

10 **SECTION 118**

11 **FEES**

12 A fee for each mechanical permit and for other activities related to the enforcement of this code
13 shall be paid as set forth in the Fee Subtitle.

14 **SECTION 119**

15 **INSPECTIONS**

16 **119.1 General.** All construction or work for which a permit is required is subject to inspection
17 by the code official, and certain types of construction shall have special inspections by registered
18 special inspectors as specified in Section 1704 of the Seattle Building Code.

19 **119.2 Inspection Requests.** It is the duty of the owner of the property or the owner's authorized
20 agent, or the person designated by the owner/agent to do the work authorized by a permit, to
21 notify the code official that work requiring inspection as specified in this section and Section
22 120 is ready for inspection.

23 It is the duty of the person requesting any inspections required by this code to provide access
24 to and means for proper inspection of such work. It is the duty of the permit holder to cause the
25 work to be accessible and exposed for inspection purposes until approved by the code official.

Neither the code official nor the City shall be liable for expense entailed in the required removal or replacement of any material to allow inspection.

119.3 Inspection Record. Work requiring a mechanical permit shall not be commenced until the permit holder or agent has posted an inspection record in a conspicuous place on the premises and in a position which allows the code official to conveniently make the required entries thereon regarding inspection of the work. This record shall be maintained in such a position by the permit holder until final approval has been granted by the code official.

119.4 Approvals Required. No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining the written approval of the code official. Such written approval shall be given only after an inspection has been made of each successive step in the construction as indicated by each of the inspections required in this section.

All mechanical systems for which a permit is required by this code shall be inspected by the code official. No portion of any mechanical system intended to be concealed shall be concealed until inspected and approved. Neither the code official nor the City shall be liable for expense entailed in the removal or replacement of material required to permit inspection. When the installation of a mechanical system is complete, an additional and final inspection shall be made.

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other pertinent laws and ordinances of the City. Inspections presuming to give authority to violate or cancel the provisions of this code or of other pertinent laws and ordinances of the City shall not be valid.

119.5 Operation of Mechanical Equipment. The requirements of this section shall not be considered to prohibit the operation of any mechanical systems installed to replace existing equipment or fixtures serving an occupied portion of the building in the event a request for inspection of such equipment or fixture has been filed with the code official more than 48 hours

after such replacement work is completed, and before any portion of such mechanical system is concealed by any permanent portion of the building.

119.6 Testing of Equipment and Systems. When applicable, fuel–gas piping shall be tested and approved as required by this code.

119.7 Other Inspections. In addition to the called inspections required by this code, the code official may make or require any other inspections of any mechanical work to ascertain compliance with the provisions of this code and other laws and ordinances which are enforced by the code official.

Where work for which any permit or approval is required is commenced or performed prior to making formal application and receiving the code official’s permission to proceed, the code official may make a special investigation inspection before a permit may be issued for such work. Where a special investigation is made, a special investigation fee may be assessed in accordance with the Fee Subtitle.

119.8 Reinspections. The code official may require a reinspection when work for which inspection is called is not complete, corrections called for are not made, the inspection record is not properly posted on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or when deviations from plans which require the approval of the code official have been made without proper approval.

For the purpose of determining compliance with Section 104.4, Maintenance, the code official or the Fire Chief may cause any structure to be reinspected.

The code official may assess a reinspection fee as set forth in the Fee Subtitle for any action listed above for which reinspection may be required. In instances where reinspection fees have been assessed, no additional inspection of the work shall be performed until the required fees have been paid.

SECTION 120

CONNECTION APPROVAL

120.1 Energy Connections. No person shall make connections from a source of energy fuel to a mechanical system or equipment regulated by this code and for which a permit is required until approved by the code official.

120.2 Temporary Connections. The code official may authorize temporary connection of the mechanical equipment to the source of energy fuel for the purpose of testing the equipment, or for use under a temporary certificate of occupancy.

Section 3. Subsection 201.3 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the ((ICC)) *Seattle Electrical Code, International Building Code, International Fire Code, International Mechanical Code* or ((~~International~~)) *Uniform Plumbing Code*, such terms shall have meanings ascribed to them as in those codes.

Interpretation I201.3: Unless otherwise amended, whenever an International, National, or Uniform code is referenced in this code, it shall mean the Seattle edition of that code, including local amendments.

Section 4. Section 202 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

SECTION 202 (IFGC)

GENERAL DEFINITIONS

* * *

The following terms and definitions are added and amended:

BOILER((,LOW-PRESSURE)). A self-contained appliance for supplying steam or hot water.
~~((Hot water heating boiler. A boiler in which no steam is generated, from which hot water is circulated for heating purposes and then returned to the boiler, and that operates at water~~

~~pressures not exceeding 160 pounds per square inch gauge (psig) (1100 kPa gauge) and at water temperatures not exceeding 250°F (121°C) at or near the boiler outlet.~~

~~**Hot water supply boiler.** A boiler, completely filled with water, which furnishes hot water to be used externally to itself, and that operates at water pressures not exceeding 160 psig (1100 kPa gauge) and at water temperatures not exceeding 250°F (121°C) at or near the boiler outlet.~~

~~**Steam heating boiler.** A boiler in which steam is generated and that operates at a steam pressure not exceeding 15 psig (100 kPa gauge).))~~

BOILER CODE. *The Seattle Boiler and Pressure Vessel Code.*

CODE. These regulations, subsequent amendments thereto, or any emergency rule or regulation that ~~((the administrative authority having jurisdiction))~~ has been lawfully adopted.

CODE OFFICIAL. The ~~((officer or other designated authority charged with the administration and enforcement of this code,))~~ Director of the Department of Planning and Development or a duly authorized representative.

ENERGY CODE. *The Washington State Energy Code with Seattle Amendments.*

WATER HEATER. Any heating appliance or equipment, not exceeding a pressure of 160 psi, a volume of 120 gallons and a heat input of 200,00 Btu/h, that heats potable water and supplies such water to the potable hot water distribution system.

Section 5. Subsections 301.1, 301.2 and 301.3 of the International Fuel Gas Code, 2003 Edition, are amended as follows:

301.1 Scope. This chapter shall govern the approval and installation of all equipment and appliances that comprise parts of the installations regulated by this code in accordance with Section ~~((401.2))~~ 103.

301.1.1 Other fuels. The requirements for combustion and dilution air for gas-fired appliances shall be governed by Section 304. The requirements for combustion and dilution air for appliances operating with fuels other than fuel gas shall be regulated by the International Mechanical Code.

301.2 Energy utilization. Heating, ventilating and air-conditioning systems of all structures shall be designed and installed for efficient utilization of energy in accordance with the ~~((*International Energy Conservation Code*))~~ Washington State Energy Code with Seattle Amendments.

301.3 Listed and labeled. Appliances regulated by this code shall be listed and labeled unless otherwise approved in accordance with Section 105 or 106. The approval of unlisted appliances in accordance with Section 105 or 106 shall be based upon approved engineering evaluation.

Section 6 Subsection 301.6 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

301.6 Plumbing connections. Potable water supply and building drainage system connections to appliances regulated by this code shall be in accordance with the ~~((*International*))~~ Uniform Plumbing Code.

Section 7. Subsection 303.7 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

303.7 Pit locations. Appliances installed in pits or excavations shall not come in direct contact with the surrounding soil. The sides of the pit or excavation shall be held back a minimum of 12 inches (305 mm) from the appliance, and a minimum of 30 inches (762 mm) on the control side.

Where the depth exceeds 12 inches (305 mm) below adjoining grade, the walls of the pit or excavation shall be lined with concrete or masonry, such concrete or masonry shall extend a minimum of 4 inches (102 mm) above adjoining grade and shall have sufficient lateral load-bearing capacity to resist collapse. The appliance shall be protected from flooding in an approved manner.

Section 8 New subsections 303.8 and 303.9 are added to the Seattle Fuel Gas Code, 2003 Edition, as follows:

[B] 303.8 Installation of Pipes or Ducts Conveying Gases, Vapors or Liquids in Hoistways, Machine Rooms, or Machinery Spaces. Pipes conveying gases, vapors or liquids are not permitted to be installed in hoistways, machine rooms, and machinery spaces.

Exceptions:

1. Only ducts for heating, cooling, ventilating, and venting these spaces are permitted to be installed in the hoistway, machine room, and machinery space.
2. Ducts and electrical conduit may pass through an elevator machine room or machinery space provided they are separated from the room or space by construction equal to the rated construction of the room or space and located so that all required clearances are maintained.

If a vented machine room is not vented directly to the outside of the building, the vent shall be enclosed within a fire barrier with at least a one-hour fire-resistance-rating, or as required for shafts where it passes through occupied floors.

3. Standard sprinkler protection conforming to the requirements of NFPA 13 shall be permitted to be installed in these spaces, subject to rules promulgated by the code official.
4. Subject to the approval of the building official, pipes protected with double containment and pipes with threaded or welded joints may be permitted. Pipes shall not be located less than 7 feet above the floor in machine rooms.

[B] 303.9 Exit Enclosures. Mechanical systems shall not be located in exit enclosures. Penetrations passing entirely through both protective membranes are prohibited.

Exceptions:

1. Equipment allowed or required by the *International Building Code* to serve the exit enclosure such as ductwork and equipment necessary for independent stairway pressurization, sprinkler piping, standpipes, electrical conduit terminating in a listed box not exceeding 16 square inches (10,323 mm²) in area, and piping used

exclusively for the drainage of rainfall runoff from roof areas provided the roof shall not be used for a helistop or heliport.

2. Unfired heaters allowed by the *International Building Code* for freeze protection of fire protection equipment may penetrate one protective membrane. The conduit serving the heater may penetrate both protective membranes.

Penetrations and communicating openings between exit enclosures in the same building are not permitted regardless of their protection. Penetrations shall be protected as required by the *International Building Code*.

Section 9. Subsections 306.3, 306.4 and 306.5 of the International Fuel Gas Code, 2003 Edition, are amended as follows:

[M] 306.3 Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and unobstructed passageway large enough to allow removal of the largest component of the appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the equipment. The passageway shall have continuous solid flooring not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the equipment. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), where such dimensions are large enough to allow removal of the largest component of the appliance.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is not less than 6 feet (1829 mm) high for its entire length, the passageway shall be not greater than 50 feet (15 250 mm) in length.

1 **[M] 306.3.1 Electrical requirements.** A lighting fixture controlled by a switch located at the
2 required passageway opening and a receptacle outlet shall be provided at or near the equipment
3 location in accordance with the ((ICC)) *Seattle Electrical Code*.

4 **[M] 306.4 Appliances under floors.** Under-floor spaces containing appliances requiring access
5 shall be provided with an access opening and unobstructed passageway large enough to remove
6 the largest component of the appliance. The passageway shall not be less than 30 inches (762
7 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) in length when
8 measured along the centerline of the passageway from the opening to the equipment. A level
9 service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be
10 present at the front or service side of the appliance. If the depth of the passageway or the service
11 space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall
12 be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade and
13 having sufficient lateral-bearing capacity to resist collapse. The clear access opening
14 dimensions shall be a minimum of 22 inches by 30 inches (559 mm by 762 mm), where such
15 dimensions are large enough to allow removal of the largest component of the appliance.

16 **Exceptions:**

- 17 1. The passageway is not required where the level service space is present when the
18 access is open and the appliance is capable of being serviced and removed through
19 the required opening.
- 20 2. Where the passageway is not less than 6 feet high (1829 mm) for its entire length, the
21 passageway shall not be limited in length.

22 **[M] 306.4.1 Electrical requirements.** A lighting fixture controlled by a switch located at
23 the required passageway opening and a receptacle outlet shall be provided at or near the
24 equipment location in accordance with the ((ICC)) *Seattle Electrical Code*.

25 **[M] 306.5 Appliances on roofs or elevated structures.** Where appliances requiring access are
26 installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access
27
28

shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the appliance's level service space. Such access shall not require climbing over obstructions greater than 30 inches high (762 mm) or walking on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope).

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria.

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have a rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum diameter of 0.75-inch (19 mm) and shall be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding a load of 100 pounds per square foot (488.2 kg/m²).
7. Ladders shall be protected against corrosion by approved means.

Catwalks installed to provide the required access shall be not less than 24 inches wide (610 mm) and shall have railings as required for service platforms.

Exception: This section shall not apply to Group R-3 occupancies.

[M] 306.5.1 Sloped roofs. Where appliances are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the appliance to which access is required by the manufacturer's installation instructions for service, repair or maintenance. The platform shall not be less than 30 inches (762 mm) in any dimension and shall be provided with guards in accordance with Section 306.6.

[M] 306.5.2 Electrical requirements. A receptacle outlet shall be provided at or near the equipment location in accordance with the ((~~IFGC~~)) Seattle Electrical Code.

Section 10. Subsection 309.2 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

309.2 Connections. Electrical connections between equipment and the building wiring, including the grounding of the equipment, shall conform to the ((~~IFGC~~)) Seattle Electrical Code.

Section 11. Subsection 402.4 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

402.4 Sizing tables and equations. Where Tables 402.4(1) through 402.4(33) are used to size piping or tubing, the pipe length shall be determined in accordance with Section 402.4.1, 402.4.2 or 402.4.3.

Where Equations 4-1 and 4-2 are used to size piping or tubing, the pipe or tubing shall have smooth inside walls and the pipe length shall be determined in accordance with Section 402.4.1, 402.4.2 or 402.4.3. Before Equations 4-1 or 4-2 are permitted to be used, plans stamped by a mechanical engineer licensed in the State of Washington shall be submitted and approved by the code official.

1. Low-pressure gas equation [Less than 1.5 pounds per square inch (psi) (10.3 kPa)]:

$$D = \frac{Q^{0.381}}{19.17 \left(\frac{\Delta H}{C_r \times L} \right)^{0.206}} \quad \text{(Equation 4-1)}$$

2. High-pressure gas equation [1.5 psi (10.3 kPa) and above]:

$$D = \frac{Q^{0.381}}{18.93 \left[\frac{(P_1^2 - P_2^2) \times Y}{C_r \times L} \right]^{0.206}} \quad \text{(Equation 4-2)}$$

where:

D = Inside diameter of pipe, inches (mm).

Q = Input rate appliance(s), cubic feet per hour at 60°F (16°C) and 30-inch mercury column

P_1 = Upstream pressure, psia ($P_1 + 14.7$)

P_2 = Downstream pressure, psia ($P_2 + 14.7$)

L = Equivalent length of pipe, feet

H = Pressure drop, inch water column (27.7 inch water column = 1 psi)

TABLE 402.4

**C_r AND Y VALUES FOR NATURAL GAS AND UNDILUTED PROPANE AT
STANDARD CONDITIONS**

AS	EQUATION FACTORS	
	C_r	Y
Natural gas	0.6094	0.9992
Undiluted propane	1.2462	0.9910

For SI: 1 cubic foot = 0.028 m³, 1 foot = 305 mm, 1-inch water column = 0.249 kPa, 1 pound per square inch = 6.895 kPa, 1 British thermal unit per hour = 0.293 W.

402.4.1 Longest length method. The pipe size of each section of gas piping shall be determined using the longest length of piping from the point of delivery to the most remote outlet and the load of the section.

402.4.2 Branch length method. Pipe shall be sized as follows:

1. Pipe size of each section of the longest pipe run from the point of delivery to the most remote outlet shall be determined using the longest run of piping and the load of the section.
2. The pipe size of each section of branch piping not previously sized shall be determined using the length of piping from the point of delivery to the most remote outlet in each branch and the load of the section.

402.4.3 Hybrid pressure. The pipe size for each section of higher pressure gas piping shall be determined using the longest length of piping from the point of delivery to the most remote line pressure regulator. The pipe size from the line pressure regulator to each outlet shall be

determined using the length of piping from the regulator to the most remote outlet served by the regulator.

Section 12. Subsection 402.6 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

402.6 Maximum design operating pressure. The maximum design operating pressure for piping systems located inside buildings shall not exceed 5 pounds per square inch gauge (psig) (34 kPa gauge) except where one or more of the following conditions are met:

1. The piping system is welded.
2. The piping is located in a ventilated chase or otherwise enclosed for protection against accidental gas accumulation.
3. The piping is located inside buildings or separate areas of buildings used exclusively for:
 - 3.1. Industrial processing or heating;
 - 3.2. Research;
 - 3.3. Warehousing; or
 - 3.4. Boiler or mechanical equipment rooms.
4. The piping is a temporary installation for buildings under construction.

Plans for piping systems over 5 psig shall be stamped by an engineer licensed to practice in the State of Washington, and shall not be installed until approved by the code official.

Section 13. Subsection 403.7 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

403.7 Workmanship and defects. Pipe, tubing and fittings shall be clear and free from cutting burrs and defects in structure or threading, and shall be thoroughly brushed, and chip and scale blown.

Defects in pipe, tubing and fittings shall not be repaired. Defective pipe, tubing and fittings shall be replaced (see Section 406.1.2).

No gas piping shall be strained or pinched, and no appliance shall be supported by, or develop any strain or stress on its supply piping.

Section 14. Subsection 403.10 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

403.10 Metallic piping joints and fittings. The type of piping joint used shall be suitable for the pressure-temperature conditions and shall be selected giving consideration to joint tightness and mechanical strength under the service conditions. The joint shall be able to sustain the maximum end force caused by the internal pressure and any additional forces caused by temperature expansion or contraction, vibration, fatigue or the weight of the pipe and its contents.

403.10.1 Pipe joints. Pipe joints shall be threaded, flanged, brazed or welded. Where nonferrous pipe is brazed, the brazing materials shall have a melting point in excess of 1,000°F (538°C). Brazing alloys shall not contain more than 0.05-percent phosphorus.

403.10.1.1 All welding in the piping system shall be done in accordance with ASME Boiler and Pressure Vessel Code Section IX.

403.10.2 Tubing joints. Tubing joints shall be either made with approved gas tubing fittings or brazed with a material having a melting point in excess of 1,000°F (538°C). Brazing alloys shall not contain more than 0.05-percent phosphorus.

403.10.3 Flared joints. Flared joints shall be used only in systems constructed from nonferrous pipe and tubing where experience or tests have demonstrated that the joint is suitable for the conditions and where provisions are made in the design to prevent separation of the joints.

403.10.4 Metallic fittings. Metallic fittings, including valves, strainers and filters, shall comply with the following:

1. Threaded fittings in sizes larger than 4 inches (102 mm) shall not be used except where approved.

2. Fittings used with steel or wrought-iron pipe shall be steel, brass, bronze, malleable iron or cast iron.
3. Fittings used with copper or brass pipe shall be copper, brass or bronze.
4. Fittings used with aluminum-alloy pipe shall be of aluminum alloy.
5. Cast-iron fittings:
 - 5.1. Flanges shall be permitted.
 - 5.2. Bushings shall not be used.
 - 5.3. Fittings shall not be used in systems containing flammable gas-air mixtures.
 - 5.4. Fittings in sizes 4 inches (102 mm) and larger shall not be used indoors except where approved.
 - 5.5. Fittings in sizes 6 inches (152 mm) and larger shall not be used except where approved.
6. Aluminum-alloy fittings. Threads shall not form the joint seal.
7. Zinc aluminum-alloy fittings. Fittings shall not be used in systems containing flammable gas-air mixtures.
8. Special fittings. Fittings such as couplings, proprietary-type joints, saddle tees, gland-type compression fittings, and flared, flareless or compression-type tubing fittings shall be: used within the fitting manufacturer's pressure-temperature recommendations; used within the service conditions anticipated with respect to vibration, fatigue, thermal expansion or contraction; installed or braced to prevent separation of the joint by gas pressure or external physical damage; and shall be approved.

Section 15. Subsection 404.6 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

404.6 Piping in solid floors. Piping in solid floors shall be laid in channels in the floor and covered in a manner that will allow access to the piping with a minimum amount of damage to

the building. Where such piping is subject to exposure to excessive moisture or corrosive substances, the piping shall be protected in an approved manner. As an alternative to installation in channels, the piping shall be installed in a casing of Schedule 40 steel, wrought iron, PVC or ABS pipe with tightly sealed ends and joints. Both ends of such casing shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor. Piping shall not be installed in solid floors without prior approval of the code official.

Section 16. Subsection 404.11 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

404.11 Piping underground beneath buildings. ~~((Piping installed underground beneath buildings is prohibited except where the piping is encased in a conduit of wrought iron, plastic pipe, or steel pipe designed to withstand the superimposed loads. Such conduit shall extend into an occupiable portion of the building and, at the point where the conduit terminates in the building, the space between the conduit and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. Where the end sealing is capable of withstanding the full pressure of the gas pipe, the conduit shall be designed for the same pressure as the pipe. Such conduit shall extend not less than 4 inches (102 mm) outside the building, shall be vented above grade to the outdoors, and shall be installed so as to prevent the entrance of water and insects. The conduit shall be protected from corrosion in accordance with Section 404.8.))~~

Where the installation of gas piping underground beneath buildings is unavoidable, the piping shall be encased in Schedule 40 steel, wrought iron, PVC or ABS pipe or other material approved by the building official. The casing shall be designed to withstand the superimposed loads. The casing shall extend into a normally usable and accessible portion of the building and, at the point where the casing terminates in the building, the space between the casing and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. Where the end sealing is of a type that will retain the full pressure of the pipe, the casing shall be designed for the same pressure as the pipe. The casing shall extend at least 4 in. (100 mm) outside the

building, be vented above grade to the outside, and be installed so as to prevent the entrance of water and insects. Piping shall not be installed underground beneath buildings without prior approval of the code official.

Section 17. Subsection 404.14 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

404.14 Plastic pipe. The installation of plastic pipe shall comply with Sections 404.14.1 through 404.14.3.

404.14.1 Limitations. Plastic pipe shall be installed outside underground only. Plastic pipe shall not be used within or under any building or slab or be operated at pressures greater than 100 psig (689 kPa) for natural gas or 30 psig (207 kPa) for LP-gas.

Exception((s)):

((4-)) Plastic pipe shall be permitted to terminate above ground outside of buildings where installed in premanufactured anodeless risers or service head adapter risers that are installed in accordance with the manufacturer's installation instructions.

~~((2. Plastic pipe shall be permitted to terminate with a wall head adapter within buildings where the plastic pipe is inserted in a piping material for fuel gas use in buildings.))~~

404.14.2 Connections. Connections made outside and underground between metallic and plastic piping shall be made only with transition fittings categorized as Category I in accordance with ASTM D 2513.

404.14.3 Tracer. A yellow insulated copper tracer wire or other approved conductor shall be installed adjacent to underground nonmetallic piping. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic piping. The tracer wire size shall not be less than 18 AWG and the insulation type shall be suitable for direct burial.

Section 18. Subsection 406.1 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

406.1 General. Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this code.

406.1.1 Inspections. Inspection shall consist of visual examination, during or after manufacture, fabrication, assembly, or pressure tests as appropriate. Supplementary types of nondestructive inspection techniques, such as magnetic-particle, radiographic, ultrasonic, etc., shall not be required unless specifically listed herein or in the engineering design.

406.1.2 Repairs and additions. In the event repairs or additions are made after the pressure test, the affected piping shall be tested.

Minor repairs and additions, as determined by the building official, are not required to be pressure tested provided that the work is inspected and connections are tested with a noncorrosive leak-detecting fluid or other approved leak-detecting methods.

406.1.3 New branches. Where new branches are installed from the point of delivery to new appliances, only the newly installed branches shall be required to be pressure tested. Connections between the new piping and the existing piping shall be tested with a noncorrosive leak-detecting fluid or other approved leak-detecting methods.

406.1.4 Section testing. A piping system shall be permitted to be tested as a complete unit or in sections. Under no circumstances shall a valve in a line be used as a bulkhead between gas in one section of the piping system and test medium in an adjacent section, unless two valves are installed in series with a valved “telltale” located between these valves. A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve-closing mechanism, is designed to safely withstand the test pressure.

406.1.5 Regulators and valve assemblies. Regulator and valve assemblies fabricated independently of the piping system in which they are to be installed shall be permitted to be tested with inert gas or air at the time of fabrication.

Section 19. Subsection 406.4 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

406.4 Test pressure measurement. ~~((Test pressure shall be measured with a manometer or with a pressure measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.~~

~~**406.4.1 Test pressure.** The test pressure to be used shall be no less than 1 1/2 times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.~~

~~**406.4.2 Test duration.** Test duration shall be not less than 1/2 hour for each 500 cubic feet (14 m³) of pipe volume or fraction thereof. When testing a system having a volume less than 10 cubic feet (0.28m³) or a system in a single family dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.))~~

The test pressure for gas piping systems less than 14 inch (356 mm) water column shall be fifteen psig. The test gauge shall have a pressure range of 30 psig. The test pressure shall be held for a length of time satisfactory to the code official, but in no case less than fifteen minutes, with no perceptible drop in pressure.

For welded pipe and for pipe carrying gas at pressures in excess of 14 inch (356 mm) water column, the test pressure shall be 60 psig (413.4 mm). The test gauge shall have a pressure

1 range of 100 psig. The test pressure shall be held for a length of time satisfactory to the code
2 official, but in no case less than 30 minutes.

3 Section 20. Subsection 410.3 of the International Fuel Gas Code, 2003 Edition, is
4 amended as follows:

5 **410.3 Venting of regulators.** Pressure regulators that require a vent shall have an independent
6 vent to the outside of the building. The vent shall be designed to prevent the entry of water or
7 foreign objects.

8 **Exception:** ~~((A vent to the outside of the building is not required for regulators equipped~~
9 ~~with and labeled for utilization with approved vent limiting devices installed in accordance~~
10 ~~with the manufacturer's instructions.))~~

11 Regulators equipped with limiting orifices capable of releasing not more than 5 cubic feet of
12 gas per hour (0.04 L/sec), when supplied with medium pressure, need not be vented to an
13 outside location when the regulators have been approved by the code official. The
14 regulators shall:

- 15 1. Have an approved gas valve in the line upstream of the regulator;
- 16 2. Be accessible;
- 17 3. Have upstream pressure identified by a metal tag permanently attached to the
18 regulator that states: "WARNING 1/2 to 5 pounds (3.4- 34.5 kPa) natural gas
19 pressure. DO NOT REMOVE"; and
- 20 4. Be in an area approved by the code official that communicates with a naturally
21 ventilated area.

22 Section 21. Subsection 411.1 of the International Fuel Gas Code, 2003 Edition, is
23 amended as follows:

24 **411.1 Connecting appliances.** Appliances shall be connected to the piping system by one of the
25 following:

- 26 1. Rigid metallic pipe and fittings.

2. Semirigid metallic tubing and metallic fittings. Lengths shall not exceed 6 feet (1829 mm) and shall be located entirely in the same room as the appliance. Semirigid metallic tubing shall not enter a motor-operated appliance through an unprotected knockout opening.
3. Listed and labeled appliance connectors installed in accordance with the manufacturer's installation instructions and located entirely in the same room as the appliance.
4. Listed and labeled quick-disconnect devices used in conjunction with listed and labeled appliance connectors.
5. Listed and labeled convenience outlets used in conjunction with listed and labeled appliance connectors.
6. Listed and labeled appliance connectors complying with ANSI Z21.69 and listed for use with food service equipment having casters, or that is otherwise subject to movement for cleaning, and other large movable equipment.

411.1.1 Protection from damage. Connectors and tubing shall be installed so as to be protected against physical damage.

411.1.2 Appliance fuel connectors. Connectors shall have an overall length not to exceed 3 feet (914 mm), except for range and domestic clothes dryer connectors, which shall not exceed 6 feet (1829 mm) in length. Connectors shall not be concealed within, or extended through, walls, floors, partitions, ceilings or appliance housings. A shutoff valve not less than the nominal size of the connector shall be installed ahead of the connector in accordance with Section 409.5. Connectors shall be sized to provide the total demand of the connected appliance.

Exception: Fireplace inserts factory equipped with grommets, sleeves, or other means of protection in accordance with the listing of the appliance.

Note: This exception applies to grommets that are included in the listing of the appliance.

411.1.3 Movable appliances. Where appliances are equipped with casters or are otherwise subject to periodic movement or relocation for purposes such as routine cleaning and maintenance, such appliances shall be connected to the supply system piping by means of an approved flexible connector designed and labeled for the application. Such flexible connectors shall be installed and protected against physical damage in accordance with the manufacturer's installation instructions.

Section 22. Subsection 413.8.2.4 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

413.8.2.4 Grounding and bonding. The structure or appurtenance used for supporting the cylinder shall be grounded in accordance with the ((ICC)) *Seattle Electrical Code*.

The cylinder valve shall be bonded prior to the commencement of venting operations.

Section 23. Subsection 614.2 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

614.2 Duct penetrations. Ducts that exhaust clothes dryers shall not penetrate or be located within any fireblocking, draftstopping or any wall, floor/ceiling or other assembly required by the *International Building Code* to be fire-resistance rated, unless such duct is constructed of galvanized steel or aluminum of the thickness specified in Table 603.4 of the *International Mechanical Code* and the fire-resistance rating is maintained in accordance with the *International Building Code*. Fire dampers shall not be installed in clothes dryer exhaust duct systems.

Clothes dryer exhaust ducts shall be protected by a steel plate or clip not less than 1/16 inch (1.59 mm) in thickness and of sufficient width to fully protect the duct. Plates or clips shall be placed on the finish face of all framing members which the clothes dryer exhaust duct passes through when there is less than 1¼ inch (32 mm) of framing material between the duct and the finish face. Plates or clips shall also be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct.

Section 24. Subsection 624.1 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

624.1 General. Water heaters shall be ~~((tested in accordance with ANSI Z 21.10.1 and ANSI Z 21.10.3 and shall be installed in accordance with the manufacturer's installation instructions~~
~~Water heaters utilizing fuels other than fuel gas shall be regulated by the *International Mechanical Code*.~~

~~**624.1.1 Installation requirements.** The requirements for water heaters relative to sizing, relief valves, drain pans and scald protection shall be in accordance with the *International Plumbing Code*.~~

~~**624.2 Water heaters utilized for space heating.** Water heaters utilized both to supply potable hot water and provide hot water for space heating applications shall be listed and labeled for such applications by the manufacturer and shall be installed in accordance with the manufacturer's installation instructions and the *International*~~
~~*Uniform Plumbing Code* and *Seattle Electrical Code*.~~

Section 25. Sections 631 and 632 of the International Fuel Gas Code, 2003 Edition, are repealed.

Section 26. Subsection 701.2 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

701.2 Permits. Permits shall be required as set forth in Section ~~((406))~~ 115 and as required by the *International Fire Code*.

Section 27. Subsection 703.6 of the International Fuel Gas Code, 2003 Edition, is amended as follows:

703.6 Electrical wiring and equipment. Electrical wiring and equipment shall comply with the ~~((ICC))~~ *Seattle Electrical Code*.

Section 28. The Director of the Department of Planning and Development shall for a period of 60 days following the effective date of this ordinance, approve applications that

1 comply with either the requirements of this Ordinance or with the provisions of Ordinance
2 119080 as amended by Ordinance 120380.

3 Section 29. This ordinance shall take effect and be in force thirty (30) days from and
4 after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10)
5 days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

6 Passed by the City Council the ____ day of _____, 2004, and signed by me in
7
8 open session in authentication of its passage this ____ day of _____, 2004.

9
10 _____
President _____ of the City Council

11 Approved by me this ____ day of _____, 2004.

12
13 _____
Gregory J. Nickels, Mayor

14 Filed by me this ____ day of _____, 2004.

15
16 _____
City Clerk

17
18 (Seal)